



U.S. Department
of Transportation
**Federal Aviation
Administration**

SAFO

Safety Alert for Operators

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Flight Standards Service
Washington, DC

http://www.faa.gov/other_visit/aviation_industry/airline_operators/airline_safety/safo

A SAFO contains important safety information and may include recommended action. SAFO content should be especially valuable to air carriers in meeting their statutory duty to provide service with the highest possible degree of safety in the public interest. Besides the specific action recommended in a SAFO, an alternative action may be as effective in addressing the safety issue named in the SAFO.

Subject: MD-11 Honeywell Pegasus Flight Management Computer (FMC) Controlled Pilot Data Link Communication (CPDLC) Anomalies

Purpose: To alert all operators of MD-11 aircraft equipped with the Honeywell Pegasus FMC, with Future Air Navigation System (FANS) enabled, of possible erroneous Air Traffic Control (ATC) messages displayed in the CPDLC log.

Background: Many MD-11 flightcrews currently use the Honeywell Pegasus FMC/CPDLC system for data communications with ATC for flight information and clearances (*i.e.*, altitude/route change request). Some MD-11 flightcrews have reported the erroneous display of ATC data link messages from previous flights instead of current ATC data link messages. Flightcrews discover these erroneous messages when they review the log for verification of an ATC clearance. The CPDLC log is suppose to auto-clear ten minutes after the FMS transitions to the "done" phase after every landing. To correct this anomaly, Interim Operating Procedures (IOP) 2-222 was implemented, but it failed to correct the anomaly.

Discussion: Boeing has taken steps to address this recurring anomaly. On March 11, 2010, Boeing issued Multi Operator Message (MOM) SR1-1536638744. The MOM provides maintenance with procedures to clear the Honeywell FMC ATC Input Buffer by depowering the aircraft or resetting the appropriate circuit breakers before each FANS/CPDLC flight. Additionally, on April 23, 2010, Boeing issued IOP 2-222A and revoked IOP 2-222. IOP 2-222A recommends that flightcrews make a Log Book entry after CPDLC operations. Aircrews should verify prior to each FANS CPDLC flight that the FMC's have been depowered by maintenance and that this action has been entered into the aircraft's maintenance log. Boeing anticipates the MOM and IOP 2-222A will temporarily fix this anomaly until a permanent software solution is developed by Honeywell. This anomaly can create confusion for MD-11 flightcrews which could delay compliance of an ATC clearance or (worst case) cause the actual compliance of an erroneous ATC clearance.

Recommended Action: Directors of Operations, Safety, Training, and Maintenance for any MD-11 operator with the Honeywell Pegasus FMC, FANS enabled, should be fully informed of the seriousness of this problem and take the necessary steps to ensure that the MD-11 CPDLC data link system displays only valid current messages. If this anomaly continues, operators should consider the CPDLC data link system unreliable and develop alternate communication procedures.

Contact: Questions or comments regarding the content of this SAFO should be directed to Otis Tolbert, Aircraft Evaluation Group, Long Beach, 562-627-5274.